ČESKOSLOVENSKÁ AKADEMIE VĚD

Studia geophysica et geodaetica

ROČNÍK 29 · 1985

ACADEMIA

dica l

94

STUDIA GEOPHYSICA ET GEODAETICA

1985

TOM 29 VOLUME

Журнал по геофизике, метеоролории и климатологии, геодезии

A journal of geophysics, meteorology and climatology, geodesy

Published by the Geophysical Insitute of the Czechoslovak Academy of Sciences, Praha

*

Главный редактор — Chief Editor

MILAN BURŠA

*

Зам. редактора — Executive Editor

JAN PÍCHA

*

Редакционная коллегия — Editorial Board

VÁCLAV BUCHA, TIBOR KOLBENHEYER, VÁCLAV PETR, KAREL PĚČ, OLDŘICH PRAUS, KLEMENT ROSA, GUSTÁV SIRÁŇ, ZDENĚK ŠIMON, JÁN TOMLAIN, JIŘÍ VANĚK, VOJTĚCH VÍTEK, ALOIS ZÁTOPEK, OTAKAR ZIKMUNDA

*

Адрес редакции — Editorial Office

Geofysikální ústav ČSAV, Boční II, 141 31 Praha 4-Spořilov

СОДЕРЖАНИЕ – CONTENTS

1

Šimon Z.: A More Precise Mechanical Theory of Askania Gravity Meters 1
Trešl J.: Reaction of Linear Gravimetric Measuring Systems to Disturbances of Equilibrium State 32
Chalupka S., Sisáková J.: Analytical Continuation of the Gravity Field for a Two-dimensional Body Using an Infinite Series 44
Červený V., Janský J.: Fast Computation of Ray Synthetic Seismograms in Vertically Inhomogeneous Media 49
Tobyáš V., Fiedler J., Knaislová D., Procházková D.: Magnitudes of Detectable and Localizable Shocks in NW Bohemia 68
Kočíková P., Pretlová V.: Preparation of Input Data, Inclusive of Satellite Data, for Forecasting Precipitation within a Limited Area 75

КРАТКИЕ СООБЩЕНИЯ – SHORTER CONTRIBUTIONS

Kozák J.: Earthquake 100
Laštovička J.: Effects of the IMF Pro- and Anti-sectors in the Winter Midlatitude Ionosphere 101

ХРОНИКА – NEWS

Editorial Board: Karel Kučera – Octogenarian 105

КРИТИКА – REVIEWS

Ingeduld M.: L. Hradilek: Three-dimensional Terrestrial Triangulation (Applications in Surveying Engineering) 106

2

Bucha V., Jakubcová I., Pick M.: Resonance Frequencies in the Sun's Motion 107
Pick M.: Closed Formulae for Transformation of the Cartesian Coordinate System into a System of Geodetic Coordinates 112
Trešl J.: Rheological Modelling of Measuring Systems of Quartz Gravity Meters 120
Priam Š., Pecár J.: Optimization of Determining the Additional Constant of an Electronic Distance Meter 127
Pěč K., Martinec Z., Pěčová J.: Matrix Approach to the Solution of Electromagnetic Induction in a Spherically Layered Earth 139
Martinec Z., Pěč K.: Matrix Approach to the Solution of Free Toroidal Elastic Oscillations of the Earth 163
Petr V., Pěčová J., Praus O.: Anomaly of Geomagnetic Variations in the Southeastern Margin of the Bohemian Massif 169

Šafanda J.: Calculation of Temperature Distribution in Two-dimensional Geothermal Profile 191

ХРОНИКА — NEWS

Editorial Board: Josef Jílek Deceased 208
Editorial Board: In Memory of Jan Kašpar 209

КРИТИКА — REVIEWS

Gruntorád J.: Angewandte Geophysik, Band 1: Gravimetrie und Magnetik (Eds. H. Militzer, F. Weber)..... 210

3

Martinec Z., Pěč K.: Expansions of the Double Product of the Global Gravity Field 211
Pěč K., Martinec Z.: An Analytical Model of Seismic Travel Times for a Spherically Asymmetric Earth..... 220
Konopásková J.: Predictive Spectral Analysis of Short Records Using Maximum Entropy 228
Pretlová V.: Bicubic Spline Smoothing of the Data Given at Points of a Rectangular Network 238
Novotný M.: Accuracy of Integral Migration Transformation in Dependence on Space-time Sampling 248
Kotoky P., Sitaram M. V. D., Rao P. G., Saikia M. M.: Station Factors of Khonsa and Yaongyimsen Seismograph Stations 257
Prikner K., Vagner V.: On the Possibilities of Horizontal Propagation of *Pc1* Pulsations in the Ionosphere 269
Kočí A.: Variations of the Geomagnetic Field at the Time of Reversals..... 280
Kropáček V., Vaňková V.: Radioactive and Trace Element Distribution in Basaltic Rocks of Lower Silesia 290
Nemešová I.: On the Entrainment in Nonprecipitating Cumuli — Entrained Air Provenance 300
Vítek V.: On the Further Generalization of Trochoidal Frontal Waves 311

КРАТКИЕ СООБЩЕНИЯ — SHORTER CONTRIBUTIONS

Lukáč J.: Absorption of Direct Solar Radiation by Watter Vapour 315

КРИТИКА — REVIEWS

Pěč K.: Identification of Seismic Sources — Earthquake or Underground Explosion (Eds E. S. Husebye, S. Mykkeltveit) 317
Siráň G.: Magnetic Field and the Processes in the Earth's Interior 318

4

Kostelecký J.: Tidal Friction. Secular Variations of the Inclination and Eccentricity of the Moon's Orbit 319

Zeman A.: Approximate Solutions of the Surface Mass Loading of a Spherical Earth Model 326
Cupal I.: Z-model of the Nearly Symmetric Hydromagnetic Dynamo with Electromagnetic Core-mantle Coupling 339
Zapletal K.: Magnetic Anisotropy of Polycrystaline Haematite Induced by a D. C. Magnetic Field 351
Střeštík J.: Interpretation of Spectra of Geomagnetic Pulsations as a Spectrum of Modulated Oscillations 362
Fiala J., Vaňková V.: Radioactivity and Geochemistry of Granulites and Some Related Rocks from the Saxonian Granulite Complex 374
Prigancová A.: On SEC Disturbances in the Polar Cap Ionosphere and Their Relation to the Solar Wind Parameters 395
Pechala F.: The Effect of Extraterrestrial Interactions on Changes of Tropospheric Circulation in the Polar Regions of the Earth 405

ХРОНИКА — NEWS

Editorial Board: At the Occasion of the 60th Birthday of Professor Zbyněk Nádeník .. 413
Editorial Board: In the Memory of Professor Ján Krajčí 414

КРИТИКА — REVIEWS

Kubáčková L.: Attila Meskó: Digital Filtering: Applications in Geophysical Exploration for Oil 415
Kopecký M.: D. Justin Schove: Sunspor Cycles 415

АВТОРСКИЙ УКАЗАТЕЛЬ – AUTHORS INDEX

Bucha V., Jakubcová I., Pick M.: Resonance Frequencies in the Sun's Motion 107
Cupal I.: Z-model of the Nearly Symmetric Hydromagnetic Dynamo with Electromagnetic Core-mantle Coupling 339
Červený V., Janský J.: Fast Computation of Ray Synthetic Seismograms in Vertically Inhomogeneous Media 49
Editorial Board: Karel Kučera — Octogenarian 105
Editorial Board: Josef Jílek Deceased 208
Editorial Board: In Memory of Jan Kašpar 209
Editorial Board: At the Occasion of the 60th Birthday of Professor Zbyněk Nádeník .. 413
Editorial Board: In the Memory of Professor Ján Krajčí 414
Fiala J., Vaňková V.: Radioactivity and Geochemistry of Granulites and Some Related Rocks from the Saxonian Granulite Complex 374
Fiedler J.: смотри — see Tobyáš V. 68
Grundtorád J.: Angewandte Geophysik, Band 1: Gravimetrie und Magnetik (Eds H. Militzer, F. Weber) 210
Chalupka S., Sisáková J.: Analytical Continuation of the Gravity Field for a Two-dimensional Body Using an Infinite Series 44
Ingeduld M.: L. Hradilek: Three-dimensional Terrestrial Triangulation (Aplications in Surveying Engineering) 106

Jakubcová I.: смотри — see Bucha V. 107
Janský J.: смотри — see Červený V. 49
Knaislová D.: смотри — see Tobyáš V. 68
Koči A.: Variations of the Geomagnetic Field at the Time of Reversals 280
Kočíková P., Pretlová V.: Preparation of Input Data, Inclusive of Satellite Data, for Forecasting Precipitation within a Limited Area 75
Konopásková J.: Predictive Spectral Analysis of Short Records Using Maximum Entropy 228
Kopecký M.: D. Justin Schove: Sunspot Cycles 415
Kostelecký J.: Tidal Friction. Secular Variations of the Inclination and Eccentricity of the Moon's Orbit 319
Kotoky P., Sitaram M. V. D., Rao P. G., Saikia M. M.: Station Factors of Khonsa and Yaongyimsen Seismograph Station 257
Kozák J.: Earthquake 100
Kropáček V., Vaňková V.: Radioactive and Trace Element Distribution in Basaltic Rocks of Lower Silesia 290
Kubáčková L.: Attila Meskó: Digital Filtering: Applications in Geophysical Exploration for Oil 415
Laštovička J.: Effects of the IMF Pro- and Anti-sectors in the Winter Midlatitude Ionosphere 101
Lukáč J.: Absorption of Direct Solar Radiation by Water Vapour 315
Martinec Z.: смотри — see Pěč K. 139
Martinec Z., Pěč K.: Matrix Approach to the Solution of Free Toroidal Elastic Oscillations of the Earth 163
Martinec Z., Pěč K.: Expansions of the Double Product of the Global Gravity Field 211
Martinec Z.: смотри — see Pěč K. 220
Nemešová I.: On the Entrainment in Nonprecipitating Cumuli — Entrained Air Provenance 300
Novotný M.: Accuracy of Integral Migration Transformation in Dependence on Space-time Sampling 248
Pecár J.: смотри — see Priam Š. 127
Pechala F.: The Effect of Extraterrestrial Interactions on Changes of Tropospheric Circulation in the Polar Regions of the Earth 405
Petr V., Pěčová J., Praus O.: Anomaly of Geomagnetic Variations in the Southeastern Margin of the Bohemian Massif 169
Pěč K., Martinec Z., Pěčová J.: Matrix Approach to the Solution of Electromagnetic Induction in a Spherically Layered Earth 139
Pěč K.: смотри — see Martinec Z. 163
Pěč K.: смотри — see Martinec Z. 211
Pěč K., Martinec Z.: An Analytical Model of Seismic Travel Times for a Spherically Asymmetric Earth 220
Pěč K.: Identification of Seismic Sources — Earthquake Underground Explosions (Eds E. S. Husebye, S. Mykkeltveit) 317
Pěčová J.: смотри — see Pěč K. 139
Pěčová J.: смотри — see Petr V. 169
Pick M.: смотри — see Bucha V. 107
Pick M.: Closed Formulae for Transformation of the Cartesian Coordinate System into a System of Geodetic Coordinates 112
Praus O.: смотри — see Petr V. 169
Pretlová V.: смотри — see Kočíková P. 75
Pretlová V.: Bicubic Spline Smoothing of the Data Given at Points of a Rectangular Network 238

Priam Š., Pecár J.: Optimization of Determining the Additional Constant of an Electronic Distance Meter 127
Prigancová A.: On SEC Disturbances in the Polar Cap Ionosphere and Their Relation to the Solar Wind Parameters 395
Prikner K., Vagner V.: On the Possibilities of Horizontal Propagation of *Pc1* Pulsations in the Ionosphere 269
Procházková D.: смотри — see Tobyáš V. 68
Rao P. G.: смотри — see Kotoky P. 257
Saikia M. M.: смотри — see Kotoky P. 257
Siráň G.: Magnetic Field and the Processes in the Earth's Interior 318
Sisáková J.: смотри — see Chalupka S. 44
Sitaram M. V. D.: смотри — see Kotoky P. 257
Střeštík J.: Interpretation of Spektra of Geomagnetic Pulsations as a Spectrum of Modulated Oscillations 362
Šafanda J.: Calculation of Temperature Distribution in Two-dimensional Geothermal Profile 191
Šimon Z.: A More Precise Mechanical Theory of Askania Gravity Meters 1
Tobyáš V., Fiedler J., Knaislová D., Procházková D.: Magnitudes of Detectable and Localizable Schocks in NW Bohemia 68
Trešl J.: Reaction of Linear Gravimetric Measuring Systems to Disturbances of Equilibrium State 32
Trešl J.: Rheological Modelling of Measuring Systems of Quartz Gravity Meters 120
Vagner V.: смотри — see Prikner K. 269
Vaňková V.: смотри — see Kropáček V. 290
Vaňková V.: смотри — see Fiala J. 374
Vítek V.: On the Further Generalization of Trochoidal Frontal Waves 311
Zapletal K.: Magnetic Anisotropy of Polycrystaline Haematite Induced by a D. C. Magnetic Field 351
Zeman A.: Approximate Sulution of the Surface Mass Loading of a Spherical Earth Model. 326